SNOWMOBILE ACCIDENT ANALYSIS

PROVINCE OF MANITOBA

WINTER OF 1985-86

This report includes all snowmobile accidents reported in Manitoba during the Winter of 1985-86. Reportable accidents are those involving fatalities, personal injuries or property damage in excess of $100.00. The primary function of this information is to help Instructors in the Manitoba Snowmobile Safety Training Program, identify the major causes of snowmobile accidents and to enable them to lend special emphasis to the appropriate countermeasures.

	1983-84	1984-85	1985-86	Percent Change from 1984-85
Number of Accidents	73	59	79	+ 33.9%
Number of Snowmobiles	85	71	91	+ 28.2%
Number of machines registered in Province* (as of end of July for year indicated)	29,196	35,798	22,926	- 35.9%
Fatal Accidents	2	1	3	+ 200.0%
Number of Fatalities	2	1	3	+ 200.0%
Injurious Accidents	55	29	38	+ 31.0%
Number of Personal Injuries (not including fatalities)	63	47	60	+ 27.6%
Number of Accidents (injuries not stated)	16	29	4	- 86.2%
Property Damage	$62,937	$70,300	$56,665	- 19.4%

*Snowmobiles in Manitoba are registered for three year registration periods. The figures listed represent the aggregate for the portion of the three year registration to the year indicated. 1985-86 was the first year of the 1985-88 registration period.

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A. ACCIDENT BY MONTH

	1983-84	% OF TOTAL ACCIDENTS	1984-85	% OF TOTAL ACCIDENTS	1985-86	% OF TOTAL ACCIDENTS	PERCENT CHANGE FROM 1984-85
September	1	1.4%	0	-	0	-	-
October	0	-	0	-	0	-	-
November	5	6.8%	6	10.2%	8	10.1%	+ 33.3%
December	19	26.0%	14	23.7%	12	15.2%	- 14.3%
January	21	28.8%	18	30.5%	19	24.0%	+ 5.5%
February	24	32.9%	13	22.0%	22	27.8%	+ 69.2%
March	2	2.7%	8	13.6%	15	19.0%	+ 87.5%
April	1	1.4%	0	-	3	3.8%	+300.0%

B. ACCIDENT LOCATIONS

	1983-84	% OF TOTAL ACCIDENTS	1984-85	% OF TOTAL ACCIDENTS	1985-86	% OF TOTAL ACCIDENTS	PERCENT CHANGE FROM 1984-85
Public Roadway	22	30.1%	27	45.8%	30	38.0%	+ 11.1%
Rivers, Lakes and Creeks	18	24.6%	5	8.5%	13	16.5%	+160.0%
Ditches, Right-of-Ways	12	16.4%	7	11.9%	5	6.3%	- 28.6%
Fields, Farmyards, Private Property	9	12.3%	3	5.1%	14	17.7%	+366.6%
Marked and Groomed Trails	5	6.8%	9	15.3%	8	10.1%	- 11.1%
Bush Trails and Winter Roads	0	-	1	1.7%	2	2.5%	+100.0%
Lakeshore, Riverbanks, Floodway	1	1.4%	1	1.7%	0	-	-100.0%
School Grounds, Sport Fields	1	1.4%	1	1.7%	0	-	-
Parking Lots	4	5.4%	1	1.7%	2	2.5%	+100.0%
Driveways	1	1.4%	3	5.1%	3	3.8%	-
Backlane, Alleys	1	1.4%	1	1.7%	0	-	-100.0%
Racetrack	-	-	-	-	1	1.3%	+100.0%
*Unknown	-	-	1	1.7%	1	1.3%	-

*Accident report contained insufficient information to determine location.

C. ACCIDENT TYPES

	1983-84	% OF TOTAL ACCIDENTS	1984-85	% OF TOTAL ACCIDENTS	1985-86	% OF TOTAL ACCIDENTS	PERCENT CHANGE FROM 1984-85
Snowmobile/Fixed Object	25	34.2%	11	18.6%	22	27.8%	+ 100.0%
Snowmobile/Motor Vehicle	17	23.3%	23	39.0%	19	24.1%	- 17.4%
Single Snowmobile	14	19.1%	7	11.8%	18	22.8%	+ 157.1%
Snowmobile/Pedestrian	4	5.5%	5	8.5%	10	12.7%	+ 100.0%
Snowmobile/Snowmobile	12	16.4%	12	20.3%	9	11.4%	- 25.0%
Cutter	1	1.4%	1	1.7%	1	1.2%	-

D. LIGHT CONDITIONS

	1983-84	% OF TOTAL ACCIDENTS	1984-85	% OF TOTAL ACCIDENTS	1985-86	% OF TOTAL ACCIDENTS	PERCENT CHANGE FROM 1984-85
Daylight	22	30.1%	21	35.6%	29	36.7%	+ 38.1%
Darkness	42	57.5%	29	49.2%	44	55.7%	+ 51.7%
Dusk	9	12.3%	8	13.6%	5	6.3%	- 37.5%
Unknown	0	-	1	1.7%	1	1.3%	-

E. AGE/SEX OF OPERATOR

	1983-84	% OF TOTAL OPERATORS	1984-85	% OF TOTAL OPERATORS	1985-86	% OF TOTAL OPERATORS	PERCENT CHANGE FROM 1984-85
Under 16 years of age	12	14.6%	15	21.1%	12M/3F (15)	16.5%	-
16 - 20	16	19.5%	15	21.0%	12M/1F (13)	14.3%	- 13.3%
21 - 25	22	26.8%	14	19.7%	24M/2F (26)	28.6%	+ 85.7%
26 - 30	16	19.5%	7	9.9%	14M/0F (14)	15.4%	+ 100.0%
31 - 35	5	6.1%	9	12.7%	10M/0F (10)	11.0%	+ 11.1%
Over 35	9	11.0%	8	11.3%	9M/1F (10)	11.0%	+ 25.0%
Unknown	2	2.4%	3	4.2%	3 (3)	3.3%	-

F. CONDITIONS OF OPERATORS

	1983-84	% OF TOTAL OPERATORS	1984-85	% OF TOTAL OPERATORS	1985-86	% OF TOTAL OPERATORS	PERCENT CHANGE FROM 1984-85
Normal	58	70.7%	52	73.2%	76	83.5%	+ 46.2%
Intoxicated	10	12.2%	6	8.5%	11	12.1%	+ 83.3%
Had Been Drinking	14	17.1%	12	16.9%	4	4.4%	- 66.6%
Unknown	0	-	1	1.4%	-	-	- 100.0%

G. REGISTRATION

	1983-84	% OF TOTAL MACHINES	1984-85	% OF TOTAL MACHINES	1985-86	% OF TOTAL MACHINES	PERCENT CHANGE FROM 1984-85
Snowmobiles Registered	49	57.6%	44	61.9%	43	47.3%	- 2.3%
Snowmobiles Not Registered	7	8.3%	17	23.9%	24	26.4%	+ 41.1%
Snowmobiles Not Required to be Registered	29	34.1%	10	14.1%	23	25.3%	+130.0%
Unknown	0	-	0	-	1	1.1%	+100.0%

H. FATALITIES AND PERSONAL INJURIES

	SLIGHT INJURY	SERIOUS INJURY (Hospitalized)	FATALITY	TOTAL	% OF TOTAL INJURIES
Snowmobile Operators	18	24	3	45	71.4%
Snowmobile Passengers	5	5	0	10	15.9%
Cutter Passenger	-	-	-	-	-
Other (Pedestrian)	3	5	0	8	12.7%

I. OWNERSHIP OF SNOWMOBILES

	1983-84	% OF TOTAL MACHINES	1984-85	% OF TOTAL MACHINES	1985-86	% OF TOTAL MACHINES
Operated by Owner	44	51.8%	34	47.9%	44	48.3%
Operated by Other	38	44.7%	37	52.1%	45	49.5%
No Operator	3	3.5%	-	-	-	-
Unknown	-	-	-	-	2	2.2%

J. POSSIBLE INFRACTIONS NOTED ON ACCIDENT REPORTS

(1) The Snowmobile Act (15)

9 - Operating a snowmobile in prohibited area

5 - Operating an unregistered snowmobile

1 - Failure to comply with rules before crossing roadway

(2) The Highway Traffic Act (2)

2 - Cross a roadway without a valid driver's licence

(3) Criminal Code of Canada (4)

2 - Impaired driving causing bodily harm

1 - Operating a snowmobile while having a blood/alcohol level exceeding 80 mg. of alcohol in 100 ml. of blood

1 - Fail to report accident.

K. VEHICLE DEFECTS

The following machine defects were noted on the accident reports as contributing either directly or indirectly to the accident.

1 - throttle malfunction

3 - inoperative headlights.

L. DESCRIPTION OF ACCIDENT TYPES

(1) Snowmobile/Motor Vehicle Collisions (19)

There were 19 accidents reporting collisions between snowmobile and motor vehicles. These collisions resulted in 7 serious injuries to 6 operators and 1 passenger; 3 slight injuries to 1 operator and 2 passengers and 1 fatality to an operator. Ten accidents occurred during daylight hours, 8 during hours of darkness, and 1 during dusk. Three operators were intoxicated at the time of the accident.

6 - Accidents occurred when snowmobiles were being operated on roadways.

- 2 - accidents involved snowmobiles colliding with parked motor vehicles. One accident resulted in the operator being killed.
- 1 - accident involved a snowmobile that was travelling without functioning lights, and collided with an approaching motor vehicle.
- 1 - accident involved a snowmobile that attempted to make a left-turn off the roadway and was struck by an on-coming motor vehicle.
- 1 - accident involved a snowmobile being operated on the left-side of a roadway colliding head-on with on-coming motor vehicle.
- 1 - accident occurred when a snowmobile swerved to avoid an on-coming motor vehicle and struck the rear of a parked van.

7 - Accidents occurred when snowmobiles that were being operated across roadways collided with passing motor vehicles.

1 - Accident occurred when a snowmobile being operated on a lake collided with a truck also being operated on the lake.

1 - Accident occurred when a snowmobile being operated in a ditch attempted to cross a private driveway and struck a passing motor vehicle.

1 - Accident occurred when a snowmobile being operated on the floodway struck a parked truck.

1 - Accident occurred when a snowmobile being operated in a parking lot collided with a truck.

1 - Accident occurred when a snowmobile that was on display in front of a building was struck by a motor vehicle exiting a parking stall.

1 - Accident report contained insufficient information to determine exactly what happened.

(2) Snowmobile/Snowmobile Accidents (9)

There were 9 accidents involving snowmobiles in collision with other snowmobiles. These accidents resulted in 9 slight injuries to 7 operators and 2 passengers and 3 serious injuries to 2 operators and 1 passenger. Four accidents occurred during daylight, 4 during hours of darkness and 1 at dusk. Two drivers were intoxicated at the time of their accidents.

2 - Accidents occurred when snowmobiles being operated on snowmobile trails collided with each other.

1 - Accident occurred when two snowmobiles being operated on the floodway collided head-on.

1 - Accident occurred when a snowmobile travelling on a roadway struck the rear of a parked snowmobile.

1 - Accident occurred when a snowmobile being operated in a gravel pit attempted to stop and slid into another snowmobile. The driver of one of the snowmobiles was intoxicated at the time of the accident.

1 - Accident occurred when snowmobiles being operated in a field collided.

3 - Accidents contained insufficient information to determine what happened.

(3) Snowmobile/Fixed Object Collisions (22)

There were 22 accidents reporting collisions between snowmobiles and fixed objects, resulting in 9 serious injuries to 7 operators and 2 passengers, and 7 slight injuries to 6 operators and 1 passenger. One fatality to an operator occurred. Thirteen accidents occurred during the hours of darkness, 7 accidents occurred during daylight hours, and 2 accidents occurred during the hours of dusk. Three operators were intoxicated at the time of their accidents and 1 drivers had been drinking prior to the accident.

5 - Accidents occurred when operators struck snowdrifts, lost control of their snowmobiles, and subsequently collided with fences.

2 - Accidents occurred on roadways.

- 1 - accident occurred when the snowmobile struck a manhole cover causing the operator to lose control and strike a fence.
- 1 - accident occurred when the operator lost control causing the snowmobile to strike a sign post.

3 - Accidents occurred when snowmobiles being operated on driveways collided with trees.

3 - Accidents occurred when snowmobiles being operated in ditches struck objects hidden under the snow.

3 - Accidents occurred when snowmobiles being operated in fields struck rocks, and overturned.

1 - Accident occurred when a snowmobile being operated in a ditch struck a hydro pole.

1 - Accident occurred when a snowmobile being operated on a bush trail struck a tree.

Snowmobile/Fixed Object Collisions (cont'd)

1 - Accident occurred when a snowmobile being operated on a river, struck an ice ridge causing the operator to lose control and strike a tree stump. This accident resulted in the operator being killed.

1 - Accident occurred when a snowmobile being operated on a lake struck a log causing the driver and passenger to be thrown off.

1 - Accident occurred when the operator of snowmobile driving on a trail, swerved to miss an on-coming snowmobile and struck a tree.

1 - Accident occurred when an operator being pursued by an enforcement officer, struck railway tracks causing the machine to flip.

Single Snowmobile Accidents (18)

There were 18 single snowmobile accidents resulting in 9 serious injuries, 3 slight injuries, and 1 fatality to the drivers. One passenger suffered a serious injury. Three drivers were intoxicated at the time of the accident, and 1 driver had been drinking prior to the accident. Ten accidents occurred during darkness, 6 accidents occurred during daylight, 1 accident occurred during dusk, and 1 accident did not indicate a time.

8 - Accidents occurred when snowmobiles struck snowdrifts causing their operators to lose control.

- 5 - occurred while being operated in ditches.
- 2 - accidents occurred while being operated on rivers.
- 1 - accident occurred while the snowmobile was being operated on private property. The operator reported that the throttle became stuck in a full open position.

4 - Accidents occurred when operators were driving too fast for the conditions and lost control of their snowmobiles.

2 - Accidents occurred when snowmobiles being operated on rivers broke through the ice. One accident resulted in the operator drowning. In the other incident, the driver had been drinking prior to the accident.

1 - Accident occurred when a snowmobile operator competing in a race, lost control and rolled his machine.

3 - Accidents contained insufficient information to determine what happened.

(5) Snowmobile/Pedestrian Collisions (10)

There were 10 accidents involving snowmobiles in collision with pedestrains resulting in 5 serious injuries and 3 slight injuries to pedestrians. One operator sustained a slight injury. Eight accidents occurred during hours of darkness, while 2 occurred during daylight hours. It was reported that 1 operator had been drinking prior to the accident.

7 - Accidents occurred when snowmobiles that were operated on roadways collided with pedestrains. In one case, the snowmobile's headlight was not functional.

2 - Accidents occurred when snowmobiles being operated on private driveways were in collision with pedestrians.

1 - Accident occurred when a snowmobile operator dismounted from his stalled snowmobile and was struck by an approaching snowmobile.

(6) Cutter Accident (1)

There was one accident which involved a snowmobile cutter. This accident occurred during darkness. The operator had been drinking prior to the accident.

1 - Accident occurred when a cutter being towed by a snowmobile was struck by a passing motor vehicle when the operator attempted to cross a roadway.

M. FATALITIES

During the 1985-86 snowmobile season, there were 3 fatal accidents resulting in 3 operator fatalities.

- On December 7, 1985 at 3:30 a.m., a 20 year old Selkirk man was killed instantly when he drove into the rear of a parked motor vehicle.

- On January 9, 1986, a 23-year old Red Deer, Alberta man was killed when the snowmobile he was operating struck an ice ridge causing him to loose control and strike a fallen tree.

- On April 18, 1986, a 35-year old Cross Lake man drowned when his snowmobile broke through the ice on the Nelson River.

N. COMMENTARY

The need for operator education and proper attitude development cannot be over-emphasized. This holds true particularly for our young snowmobile operators. Of the accidents reported during the 1985/86 season, 30.8% involved operators 20 years of age and younger.

Public roadways accounted for 38% of the accident locations. In the majority of cases, snowmobiles were operated along roadways in direct violation of The Snowmobile Act.

Vehicle defects were reported in 4 accidents. In all cases, the failure was not on the part of the snowmobile, but that of it's operator. Any accidents where vehicle defects were mentioned, may be attributed to poor regular maintenance or improper pre-start checks.